

REMARKS

Claims 1-5 are pending in the present application and have been rejected under 35 U.S.C. § 112, second paragraph. Claims 1, 2 and 5 have further been rejected under 35 U.S.C. § 102 (b) and 35 U.S.C. § 103(a). Also, the Examiner has indicated that claims 3 and 4 contain allowable subject matter.

As a preliminary matter, Applicant would like to acknowledge receipt of the initialed PTO-1449 form for the IDS submitted on January 8, 2003.

In addition, the Examiner has objected to Figures 4 and 5 because they are not labeled as “Prior Art”. Therefore, Applicant is submitting proposed drawing corrections with this Amendment and respectfully requests the Examiner to review and approve such corrections.

Further, the Examiner has objected to the specification due to a minor informality. Applicant has amended the specification to correct the minor error and submits that such amendment removes the objection.

Rejections under 35 U.S.C. §112, second paragraph

The Examiner has rejected claims 1, 2 and 5 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In reference to claim 1, the Examiner is unsure whether the coating of the flux is the only step in the claim or whether the molten metal infiltration follows the coating of the flux. Accordingly, Applicant has made minor amendments to claim 1 for clarification purposes.

Also, the Examiner has rejected claims 2 and 5 due to minor antecedent basis errors. Applicant submits that the proposed amendments will overcome the rejections.

Rejections under 35 U.S.C. § 102(b)

The Examiner has further rejected claims 1, 2 and 5 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,169,426 to Kornmann et al. (“Kornmann”).

A. Claim 1

The Examiner maintains that Kornmann teaches every feature of claim 1. However, claim 1 has been amended to incorporate the subject matter of claim 3. Since the Examiner has indicated that claim 3 contains allowable subject matter, Applicant submits that claim 1 is now in condition for immediate allowance.

Accordingly, Applicant respectfully requests the Examiner to withdraw the rejection of claim 1.

B. Claim 2

Applicant submits that claim 2 is patentable over the cited reference. For example, claim 2 recites continuously coating a linear material with a flux by a flux coating reservoir provided immediately prior to an inlet seal portion of a bath container.

The Examiner maintains that Kornmann suggests the above features. However, Applicant submits that the Examiner is misinterpreting and/or misapplying the cited reference. For example, Kornmann does not disclose that flux coating reservoir 10 is provided immediately prior to an inlet seal portion 19, 20 of the bath container 14 (Fig. 1). Specifically, linear material 2 must pass around deflecting rollers 12a, 12b and 12c before arriving at bath container 14 (Fig. 1; col. 3, lines 3-7). Winding around rollers 12a, 12b and 12c does not teach or disclose an

immediate introduction of the linear material into the bath container after coating of the flux, as required by claim 2. Therefore, Kornmann fails to teach or suggest every limitation recited in claim 2.

Accordingly, Applicant submits that claim 2 is patentable over the cited reference and respectfully requests the Examiner to withdraw the rejection.

C. Claim 5

Turning to independent claim 5, the Examiner has rejected the claimed molten metal infiltrating apparatus in view of Kornmann. Since claim 5 contains similar elements recited in the method of claim 2, Applicant submits that claim 5 is patentable for at least similar reasons as set forth above.

Rejections under 35 U.S.C. § 103(a)

The Examiner has further rejected claims 1, 2 and 5 under 35 U.S.C. § 103(a) as being unpatentable over JP 61017351 to Yamada (“Yamada”) in view of Kornmann.

Since Applicant has incorporated the allowable subject matter of claim 3 into claim 1, the rejection of claim 1 is now moot.

Turning to claim 2, the Examiner acknowledges that Yamada does not disclose the use of a flux reservoir to continuously coat a linear material before immediate infiltration into a bath container, but contends that Kornmann does. However, as stated above in under the 35 U.S.C. § 102 rejection of claim 2, Kornmann fails to disclose the use of a flux reservoir to continuously

coat a linear material immediately prior to infiltration into a bath container. Therefore, since Kornmann fails to cure the deficient teachings of Yamada, Applicant submits that claim 2 is patentable over the cited references.

Since claim 5 contains similar elements recited in the method of claim 2, Applicant submits that claim 5 is patentable over the cited references for at least similar reasons.

Allowable subject matter

The Examiner has indicated that claims 3 and 4 contain allowable subject matter. As stated above, the allowable subject matter of claim 3 has been incorporated into claim 1, and claim 3 has been cancelled without prejudice or disclaimer.

Newly Added Claims

Applicant has added new claims 6-8 to provide more varied protection of the present invention. Applicant submits that such claims are patentable either due to their dependency or due to reasons set forth above. In addition, claims 7 and 8 are drafted in view of the non-limiting embodiments depicted in Figures 1 and 3.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment under 37 C.F.R. § 1.111
U.S. Application No. 09/942,762

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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PATENT TRADEMARK OFFICE

Date: March 18, 2003

APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 9, the third full paragraph is amended as follows:

When the inside of the bath container 3 is heated by the heater 3a in this state, the metal ingot 4 is molten in a [potion]portion provided in contact with the internal wall of the bath container 3 and a model state is shown in Fig. 2.

IN THE CLAIMS:

Claim 3 is cancelled without prejudice or disclaimer.

The claims are amended as follows:

1. (Once Amended) A molten metal infiltrating method for infiltrating a linear material with a molten metal, wherein [a]the linear material previously is coated with a flux immediately before the material is infiltrated with the molten metal[.],

wherein the linear material is a carbon fiber and the flux is lithium chloride or sodium chloride.

2. (Once Amended) [The]A molten metal infiltrating method comprising the steps of: continuously introducing a linear material, to be a core, into a bath container through an inlet seal portion provided in a bottom part of [a]the bath container, having a molten metal [on]in a pressurized inside;

consecutively drawing the linear material out of an outlet seal portion provided in a top part of the bath container, and

continuously coating the linear material, introduced into the bath container through the inlet seal portion, with a flux by a flux coating reservoir provided [in the vicinity of] immediately prior to the inlet seal portion, such that the linear material is introduced into the bath container immediately after coating with the flux.

5. (Once Amended) A molten metal infiltrating apparatus comprising:
a bath container having an inlet seal portion in a bottom part; and
flux coating means for coating, with a flux, a linear material continuously introduced into the bath container through the inlet seal portion, the flux coating means provided [in the vicinity of] immediately prior to the inlet seal portion.

Claims 6-8 are added as new claims.